Abstract of the Disclosure

A method is provided for computing a composite image representing a focused image of an object in an application of machine vision in an optical inspection system. An image tessellated into focus regions is evaluated by region for fine feature sharpness. A sharpness image is computed for each focused region using a fine feature sharpness measurement. A focused composite image is computed by combining as a weighted average, the images at several focus settings, using the sharpness image at each focus setting as the weight. The focused composite image can be further analyzed, inspected, or otherwise processed.